



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
 United States Patent and Trademark Office
 Address: COMMISSIONER FOR PATENTS
 P.O. Box 1450
 Alexandria, Virginia 22313-1450
 www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/771,720	02/04/2004	Fritz Leber	ZAHFRI P602US	4126
20210	7590	08/18/2005	EXAMINER	
DAVIS & BUJOLD, P.L.L.C. FOURTH FLOOR 500 N. COMMERCIAL STREET MANCHESTER, NH 03101-1151			BONCK, RODNEY H	
			ART UNIT	PAPER NUMBER
			3681	

DATE MAILED: 08/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/771,720

Applicant(s)

LEBER, FRITZ

Examiner

Rodney H. Bonck

Art Unit

3681

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 July 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11, 12 and 14-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11, 12 and 14-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 February 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

The following action is in response to the amendment received July 7, 2005.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the electronic control unit and performance matrix must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner,

Art Unit: 3681

the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 11, 12, and 14-30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claims call for a clutch arranged "ahead of a pump impeller wheel", but the intended meaning of "ahead" here is not clear.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 11, 12, 15-17, 20, 21, 22, 24-26, 29 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Olson et al.(H964) in view of Kayakawa et al.('269). The Olson et al. device discloses a hydrodynamic torque converter including a clutch (50 or 108) arranged ahead of pump impeller 30 and connected to drive mechanism 12.

The converter further includes a turbine rotor 88 and speed detectors 132 and 176 providing turbine and impeller speed signals to an electronic control unit 168 for transmission control. Olson et al. do not disclose whether a performance matrix containing hydrodynamic torque converter values is used in controlling the transmission. The Kayakawa et al. device discloses a transmission control wherein turbine torque is determined using pump and turbine speed and torque converter characteristics stored in the control unit (see column 9, lines 18-32). It would have been obvious to carry this teaching to the Olson et al. device, the motivation being to provide improved transmission control. Note that the clutches in Olson et al. are friction multi-plate clutches and thus inherently can be operated with clutch slippage, and the clutches are arranged inside one of the converter housing 24 or a transmission housing 22. In Olson et al. radially on the inside of impeller wheel 30 is a flange 35 which includes means 134 at one axial end of an extension of the flange enabling the speed of rotation to be detected. The means 134 can be considered cams insofar as defined in the claims. Means 134 can be considered parallel of the axis of rotation, as can the means 104.

Claims 14 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Olson et al.(H964) in view of Kayakawa et al.('269) as applied to claims 11, 12, 15-17, 20, 21, 22, 24-26, 29 and 30 above, and further in view of Mamo('197). The second speed sensor 132 in Olson et al. is arranged in a positionally fixed component 74 that supports stator 60. In Olson et al., however, the stator does not appear to be supported for relative rotation on component 74 as called for here. In Mamo stator 53 is supported

for relative rotation via sprag clutch 59 on fixed component 60. It is well known to support the stator for one-way rotation as in Mamo, and it would have been obvious to so support the stator in Olson et al., the motivation being to permit the stator to freewheel in one direction.

Claims 15-17, 24-26, and 30 are further rejected under 35 U.S.C. 103(a) as being unpatentable over Olson et al.(H964) in view of Kayakawa et al.('269) as applied to claims 11, 12, 20, 21, 22, and 29 above, and further in view of Richmond('775). Even if the means 134 of the second speed sensor in Olson et al. were considered to be a radially disposed sensor rather than on an "axial end", both alternative arrangement are known in the art, and it would have been within the purview of the artisan to choose the arrangement best suited to the available space. Richmond shows both the radial and axial alternatives in Figs. 2 and 3. Thus it would have been obvious to choose either an axial sensor, as at 22,32 of Richmond, or a radial sensor, as at 110,112 of Richmond, for sensing turbine and impeller speeds in Olson et al.

Claims 18, 19, 27, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Olson et al.(H964) in view of Kayakawa et al.('269) as applied to claims 11, 12, 15-17, 20, 21, 22, 24-26, 29 and 30 above, and further in view of Shirai et al.('168). In Olson et al. the second speed sensor is not arranged at right angles to the rotational axis and the sensor is not outside the converter housing, as called for in these claims. Shirai et al. disclose a transmission including a torque converter wherein

impeller speed is detected by a sensor arrangement 71,72 disposed at right angles to the rotational axis and outside the converter housing. It would have been obvious to use this arrangement in the Olson et al. device, the motivation being to provide a speed sensor that is easily accessible.

Response to Arguments

The amendment received July 7, 2005 overcomes the objection to the specification for failing to provide antecedent basis for the term "performance matrix". The objection is withdrawn. An objection to the drawings is added, however, since the performance matrix and the electronic control unit are claimed but not shown in the drawings.

In view of applicant's arguments set forth in the third paragraph of the REMARKS filed July 7, 2005, the rejection of claim 13 under 35 USC 112, first paragraph, is withdrawn.

The rejection based on 35 USC 112, second paragraph, set forth in the previous Office action is overcome by applicant's amendment and is accordingly withdrawn. A new rejection under 35 USC 112, second paragraph, has been added, however, because the intended meaning of the expression "ahead of a pump impeller wheel" is not clear.

Applicant's arguments with respect to claims 11, 12, and 14-30 have been considered but are moot in view of the new ground(s) of rejection. Since at least some

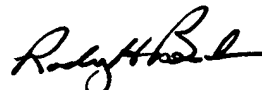
Art Unit: 3681

of the new grounds of rejection were not necessitated by applicant's amendment, this action is not a final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rodney H. Bonck whose telephone number is (571) 272-7089. The examiner can normally be reached on Monday-Friday 7:00AM - 3:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles A. Marmor can be reached on (571) 272-7095. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Rodney H. Bonck
Primary Examiner
Art Unit 3681

rhb
August 15, 2005